

Appl. No.: 10/711,439
Amdt. Dated: 5/25/2006
Reply to Office action of: 03/15/2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended) A rear lighting system ~~applied~~ adaptable to an automotive vehicle, of the type comprising:

at least one supporting element (1),

a plurality of light sources (2) assembled on said at least one supporting element (1), ~~which is at least one in number~~, and

a control means (3) electrically connected to said light sources (2) to actuate them such that the light sources (2) can emit ~~with~~ at least two light intensity levels ~~in order~~ suitable to carry out at least two corresponding lighting functions, one of ~~which~~ said lighting levels consisting ~~consists~~ of acting as brake lights,

characterized in that said control means (3) comprises detection means for detecting a malfunctioning of at least one of said plurality of light sources (2), and ~~in that the said~~ control means (3) ~~are~~ is also adapted to compensate for a corresponding variation in the total light intensity provided by ~~the~~ said rear lighting system due to said malfunctioning by ~~means of~~ actuating or deactivating at least another one of said plurality of light sources (2) and ~~or~~ increasing or decreasing the current ~~to be made to circulate~~ circulating through at least one functioning ~~said other~~ light source (2) ~~or another different one~~.

Claim 2 (currently amended) A rear lighting system according to claim 1, characterized in that ~~the light sources (2)~~ of said plurality of light sources (2) are divided into a first group, or main group, and a second group, or spare group, ~~which light sources (2) are usually~~ said second group being normally switched off ~~but~~ and wherein at least a part of ~~which are~~ said second group being actuated by the said control means (3) ~~to compensate thereby compensating~~ for the malfunctioning of any of ~~the light sources (2)~~ of the said first group, ~~if necessary~~.

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Claim 3 (currently amended) A rear lighting system according to claim 1, characterized in that ~~the light sources (2)~~ all of said plurality of light sources (2) are actuated ~~all at the same time~~ simultaneously by said control means (3), and when at least one of said plurality of light sources (2) malfunctions ~~malfunctioning of one of them occurs, the~~ said control means (3) compensates for a corresponding variation in the total light intensity ~~provided by the~~ of said rear lighting system due to said malfunctioning by ~~means of~~ increasing or decreasing the current ~~to be made to circulate~~ circulating through all ~~the~~ of said plurality of light sources (2).

Claim 4 (currently amended) A rear lighting system according to claim 1, characterized in that another one of said lighting functions consists of acting as anti-fog lights.

Claim 5 (currently amended) A rear lighting system according to claim 4, characterized in that ~~the~~ said plurality of light sources (2) emit with a third light intensity level to carry out a third lighting function consisting of acting as side lamps.

Claim 6 (currently amended) A rear lighting system according to claim 5, characterized in that said plurality of light sources (2) are LEDs ~~(2)~~.

Claim 7 (currently amended) A rear lighting system according to claim 6, characterized in that said supporting element (1) is a rigid ~~or flexible~~ printed circuit, and ~~in that~~ said LEDs (2) are welded to electroconducting tracks on said rigid printed circuit thereof.

Claim 8 (currently amended) A rear lighting system according to claim 6, characterized in that ~~the~~ said control means (3) comprises an electronic system, comprising at least one microprocessor, associated to said detection means.

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Claim 9 (currently amended) A rear lighting system according to claim 8, characterized in that it is adapted to be at least partially arranged inside a casing closed with a cover, at least partially transparent, said casing situated in the rear part of a vehicle.

Claim 10 (currently amended) A rear lighting system according to claim 9, characterized in that the entire system is adapted to be arranged inside said casing.

Claim 11 (currently amended) A rear lighting system according to claim 9, characterized in that ~~the part~~ a portion of the control means (3) ~~are~~ is adapted to be arranged in another part of ~~the~~ a vehicle different to that of said casing.

Claim 12 (currently amended) A rear lighting system according to claim 11, characterized in that said electronic system is adapted to be a ~~forms~~ part of a computer on board said vehicle.

Claim 13 (currently amended) A rear lighting system according to claim 1, characterized in that ~~the~~ said electronic system of said control means (3) controls said current ~~to be made to circulate~~ circulating through said at least said one other light source ~~by means of said electronic system~~.

Claim 14 (currently amended) A rear lighting system according to claims 1 or 3, characterized in that ~~the~~ said control means (3) is adapted to be suitable to carry out said ~~increase or decrease of the current to be made to circulate~~ current circulation through said at least said other light source (2), ~~another different one, or all the light sources (2),~~ by ~~means of~~ Pulse Wave Modulation (PWM) techniques.

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Claim 15 (currently amended) A rear lighting system according to claim 1, characterized in that the said control means (3) ~~are~~ is adapted to actuate at least one of said plurality of light sources (2) to emit a ~~with said~~ light intensity level ~~in order to carry out said function consisting of~~ suitable for acting as brake lights, ~~according to a~~ corresponding ~~to the~~ detection of a sudden speed reduction of the a vehicle not caused by actuating a brake pedal thereof.

Claim 16 (currently amended) A rear lighting system according to claim 15, ~~characterized in that~~ adapted to detecting said sudden speed reduction of the said vehicle ~~is detected~~ by means of an accelerometer ~~included in the system~~.

Claim 17 (currently amended) A rear lighting system according to claim 15, ~~characterized in that~~ adapted to detecting said sudden speed reduction of the said vehicle ~~is detected~~ by means of an inclinometer ~~included in the system~~, detecting a corresponding inclination of the vehicle caused by the sudden speed reduction.

Claim 18 (currently amended) A rear lighting system according to claim 15, characterized in that said control means (3) is adapted to detecting said sudden speed reduction of the said vehicle ~~is detected~~ by means of communication ~~a corresponding consultation of the control means (3)~~ with a computer on board the said vehicle.

Claim 19 (currently amended) A rear lighting system according to claim 2, characterized in that the said control means (3) ~~are~~ is adapted to actuate at least one of said plurality of light sources (2) to emit with ~~said~~ a light intensity level ~~in order to carry out said function consisting of~~ suitable for acting as anti-fog lights, ~~according to a~~ corresponding upon detection of fog in the environment surrounding the vehicle.

Claim 20 (currently amended) A rear lighting system according to claim 19, characterized in that said control means (3) is adapted to ~~detection of fog is carried out by~~ means of using at least one fog sensor device.

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Claim 21 (currently amended) A rear lighting system according to claim 20, characterized in that said control means (3) is adapted to detect fog using a fog sensor device comprises at least one humidity sensor and one temperature sensor.

Claim 22 (new) A rear lighting system according to claim 6, characterized in that said supporting element (1) is a flexible printed circuit, and said LEDs (2) are welded to electro conducting tracks on said flexible printed circuit.